

09/884965

April 10, 2001

ABSTRACT OF THE DISCLOSURE

5 The apparatus comprises a displacement pump with at least
one flow vessel, with a pump drive, and with a support
means for holding the flow vessel. Furthermore, the
apparatus comprises a measuring arrangement responsive to
the displacement motions performed by the flow vessel,
wherein said displacement motions are picked up by a
pressure sensor disposed at the flow vessel or by a strain
10 sensor disposed at the support means. The measuring
arrangement serves to sense an actual displacement motion
of the flow vessel robustly and reliably, and to deliver a
measurement signal representative of this motion. The
signal is particularly suited for generating a flow rate
15 estimate representative of the instantaneous volume flow
rate and/or for generating a status signal signaling a
current operational status. Further, a method is disclosed
which supplies information serving to monitor such an
apparatus. The apparatus is suitable for using in a
20 sampler.